

NOV 13 2006

Serial No. 10/774,404

Docket No. 1293.1076DC

IN THE CLAIMS:

Please **AMEND** claims 1-13, 19, 22, and 25 in accordance with the following:

1. (**CURRENTLY AMENDED**) An adaptive writing method of writing input data on an optical recording medium using a write pulse waveform including a first pulse, a last pulse and a multi-pulse train, comprising:

controlling the write pulse waveform based on a grouping table to generate an adaptive write pulse waveform by varying a position of a rising edge of the first pulse of a mark to be written according to a length of the mark to be written and/or a leading space, the grouping table storing width-rising edge data of the first and/or last pulses of the write pulse waveform varying according to corresponding stored values of lengths of marks to be written; and

optically writing the input data on the optical recording medium using the adaptive write pulse waveform,

wherein the generated adaptive write pulse waveform is generated without regard for a trailing space of a present mark being written using the adaptive write pulse waveform.

2. (**CURRENTLY AMENDED**) The adaptive writing method of claim 1, wherein the grouping table stores the width-rising edge data of the first ~~and/or last~~ pulses for the write pulse waveform ~~by grouping a length of a present mark and a length of a leading space of the present mark into corresponding pulse groups according to corresponding lengths of the present mark and leading space according to corresponding stored values of lengths of marks to be written and the leading space grouped according to a first preset length of the mark and space and a second preset length of the mark and space.~~

3. (**CURRENTLY AMENDED**) An adaptive writing method of writing input data on an optical recording medium using a write pulse waveform including a first pulse, a last pulse and a multi-pulse train, comprising:

controlling the write pulse waveform by varying a position of a rising edge of the first pulse of a mark to be written according to a length of the mark to be written and a leading space based on a grouping table, the grouping table having width-rising edge data grouped in pulse groups which group the first and/or last pulses of the write pulse waveform grouped according to a first preset length of the mark and space and a second preset length of the mark and space by ~~corresponding lengths of a present mark of input data and a leading space of the present mark~~ to generate an adaptive write pulse waveform; and

optically writing the input data on the optical recording medium using the adaptive write

Serial No. 10/774,404**Docket No. 1293.1076DC**

pulse waveform.

4. (CURRENTLY AMENDED) An adaptive writing method of writing input data on an optical recording medium using a write pulse waveform including a first pulse, a last pulse and a multi-pulse train, comprising:

controlling the write pulse waveform based on a grouping table to generate an adaptive write pulse waveform by varying a position of a rising edge of the first pulse of the mark to be written according to a length of at least a mark to be written and a leading space, the grouping table storing width-rising edge data of the first ~~and/or~~ last pulses of the write pulse waveform grouped in corresponding pulse groups according to lengths of marks to be written and/or lengths of spaces adjacent to the marks to be written; and

optically writing the input data on the optical recording medium using the adaptive write pulse waveform.

5. (CURRENTLY AMENDED) The adaptive writing method of claim 1, wherein the controlling the write pulse waveform comprises determining from the input data a length of a present mark to be written, and selecting from the grouping table one of the width-rising edge data of the first ~~and/or~~ last pulses of the write pulse waveform which is associated with a-the length of a-the mark which corresponds to the determined length.

6. (CURRENTLY AMENDED) The adaptive writing method of claim 1, wherein the controlling the write pulse waveform further comprises determining from the input data a length of a space adjacent to a present mark to be written, and selecting from the grouping table one of the width-rising edge data of the first ~~and/or~~ last pulses of the write pulse waveform which is associated with a length of a space which corresponds to the determined length.

7. (CURRENTLY AMENDED) The adaptive writing method of claim 5, wherein the controlling the write pulse waveform further comprises determining from the input data another length of a space adjacent to the present mark to be written, and the selecting from the grouping table comprises selecting one of the width-rising edge data of the first ~~and/or~~ last pulses of the write pulse waveform which is associated with both a length of a mark which corresponds to the determined length and a length of a space which corresponds to the another determined length.

Serial No. 10/774,404**Docket No. 1293.1076DC**

8. **(CURRENTLY AMENDED)** The adaptive writing method of claim 3, wherein the controlling the write pulse waveform comprises determining from the input data a length of a present mark to be written, and selecting from the grouping table one of the width-rising edge data of the first ~~and/or last~~ pulses of the write pulse waveform which is associated with a stored length value of a mark to be written which corresponds to the determined length.

9. **(CURRENTLY AMENDED)** The adaptive writing method of claim 3, wherein the controlling the write pulse waveform comprises determining from the input data a length of a lead space of a present mark to be written, and selecting from the grouping table one of the width-rising edge data of the first ~~and/or last~~ pulses of the write pulse waveform which is associated with a stored length value of the leading space which corresponds to the determined length.

10. **(CURRENTLY AMENDED)** The adaptive writing method of claim 8, wherein the controlling the write pulse waveform comprises determining from the input data another length of a leading space adjacent to the present mark, and the selecting from the grouping table comprises selecting one of the width-rising edge data of the first ~~and/or last~~ pulses of the write pulse waveform which is associated with both a stored length value of a mark which corresponds to the determined length and a stored length value of the space which corresponds to the another determined length.

11. **(CURRENTLY AMENDED)** The adaptive writing method of claim 4, wherein the controlling the write pulse waveform comprises determining from the input data a length of a present mark to be written, and selecting from the grouping table one of the width-rising edge data of the first ~~and/or last~~ pulses of the write pulse waveform which is associated with a length of a mark which corresponds to the determined length.

12. **(CURRENTLY AMENDED)** The adaptive writing method of claim 4, wherein the controlling the write pulse waveform comprises determining from the input data a length of a space adjacent to a present mark to be written, and selecting from the grouping table one of the width-rising edge data of the first ~~and/or last~~ pulses of the write pulse waveform which is associated with a length of a space which corresponds to the determined length.

13. **(CURRENTLY AMENDED)** The adaptive writing method of claim 11, wherein the

Serial No. 10/774,404**Docket No. 1293.1076DC**

controlling the write pulse waveform comprises determining from the input data another length of a space adjacent to the present mark to be written, and the selecting from the grouping table comprises selecting one of the width-rising edge data of the first ~~and/or~~ last pulses of the write pulse waveform which is associated with both a length of a mark which corresponds to the determined length and a length of the space which corresponds to the another determined length.

14. (PREVIOUSLY PRESENTED) The adaptive writing method of claim 3, wherein the generated adaptive write pulse waveform is generated according to the lengths of the present mark and the leading space regardless of a length of a trailing space of the present mark.

15. (PREVIOUSLY PRESENTED) The adaptive writing method of claim 3, wherein the pulse groups comprise a short pulse group and another pulse group, each member of the another pulse group having lengths greater than each member of the short pulse group.

16. (PREVIOUSLY PRESENTED) The adaptive writing method of claim 4, wherein:
the present mark comprises another adjacent space other than the adjacent space such that the present mark is between the adjacent space and the another adjacent space; and
the generated adaptive write pulse waveform is generated according to the lengths of the present mark and the adjacent space regardless of a length of the another adjacent space of the present mark.

17. (PREVIOUSLY PRESENTED) The adaptive writing method of claim 4, wherein the pulse groups comprise a short pulse group and another pulse group, each member of the another pulse group having lengths greater than each member of the short pulse group.

18. (PREVIOUSLY PRESENTED) The adaptive writing method of claim 2, wherein the grouping table pulse groups comprise a short pulse group and another pulse group.

19. (CURRENTLY AMENDED). The adaptive writing method of claim 1, wherein:
the optical recording medium comprises a digital versatile disc (DVD), and
the optically writing optically writing the input data comprising writing the input data to the DVD without using a magnet.

Serial No. 10/774,404

Docket No. 1293.1076DC

20. (PREVIOUSLY PRESENTED). The adaptive writing method of claim 19, wherein the DVD comprises a DVD random access memory (DVD-RAM).

21. (PREVIOUSLY PRESENTED). The adaptive writing method of claim 19, wherein the DVD comprises a high-density DVD.

22. (CURRENTLY AMENDED). The adaptive writing method of claim 3, wherein:
the optical recording medium comprises a digital versatile disc (DVD), and
the optically writing optically writing the input data comprising writing the input data to the DVD without using a magnet.

23. (PREVIOUSLY PRESENTED). The adaptive writing method of claim 22, wherein the DVD comprises a DVD random access memory (DVD-RAM).

24. (PREVIOUSLY PRESENTED). The adaptive writing method of claim 22, wherein the DVD comprises a high-density DVD.

25. (CURRENTLY AMENDED). The adaptive writing method of claim 4, wherein:
the optical recording medium comprises a digital versatile disc (DVD), and
the optically writing optically writing the input data comprising writing the input data to the DVD without using a magnet.

26. (PREVIOUSLY PRESENTED). The adaptive writing method of claim 25, wherein the DVD comprises a DVD random access memory (DVD-RAM).

27. (PREVIOUSLY PRESENTED). The adaptive writing method of claim 25, wherein the DVD comprises a high-density DVD.